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[Abstract] [PDF Full-Text (576 KB)] IEEE JNL	

3 An integrated visualization and design toolkit for flexible prosthetic

heart valves Fenlon, A.J.; David, T.; Walton, J.P.R.B.; Visualization 2000. Proceedings , 8-13 Oct. 2000

Pages:453 - 456, 588

[Abstract] [PDF Full-Text (412 KB)] **IEEE CNF** 

4 Decision trees and automatic learning in medical decision making Zorman, M.; Kokol, P.;

Intelligent Information Systems, 1997. IIS '97. Proceedings , 8-10 Dec. 1997 Pages: 37 - 41

[Abstract] [PDF Full-Text (284 KB)] **IEEE CNF** 

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Alvarez, A.M.; Centeno, M.A.;

Simulation Conference Proceedings, 1999. Winter, Volume: 2, 5-8 Dec. 1999. Pages: 1685 - 1693 vol.2

[Abstract] [PDF Full-Text (1368 KB)] IEEE CNF

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Simulation Conference Proceedings, 1995. Winter, 3-6 Dec. 1995

Pages:1066 - 1072

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Johnson, C.R.; Parker, S.G.;

Supercomputing '94. Proceedings , 14-18 Nov. 1994

Pages:540 - 549

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## 8 Role of visual languages in developing image analysis algorithms

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Visual Languages, 1994. Proceedings., IEEE Symposium on , 4-7 Oct. 1994

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[Abstract] [PDF Full-Text (540 KB)] IEEE CNF

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#### **↑ ABSTRACT**

Two computer graphics systems for the presentation of biomedical information for diagnosis and treatment planning are described. Both systems presented utilize computer tomographic (CT) data as input. One of the systems produces three-dimensional surface representations of organs and anatomical features found within the body. The other system is a radiation treatment planning aid which uses tomographic data in its computations.

## **↑ REFERENCES**

Note: OCR errors may be found in this Reference List extracted from the full text article. ACM has opted to expose the complete List rather than only correct and linked references.

- 1 Ashkar, G.P. and Modestino, J.W., "The Contour Extraction Problem with Biomedical Applications," Proceedings of 1977 IEEE Conference on Pattern Recognition and Image Processing, pp. 216-221, Troy, NY (1977).
- 2 James F. Blinn, Models of light reflection for computer synthesized pictures, Proceedings of the 4th annual conference on Computer graphics and interactive techniques, p.192-198, July 20-22, 1977, San Jose, California
- 3 Budinger, T.F. and Gullberg, G.T. "Three-Dimensional Reconstruction in Nuclear Medicine Emission

Imaging," IEEE Transactions on Nuclear Science, Vol. NS-21, No. 3 (June 1974).

- 4 Catmull, Edwin A., A Subdivision Algorithm for Computer Display of Curved Surfaces, Dept. of Comp. Sc., Univ. of Utah, UTEC-CSc-74-133, Dec. 1974. Also, Computer Display of Curved Surfaces, Proc. Conf. on Comp. Graphics, May 1975 (IEEE Cat. No. 75CH0981-1C), 11-17.
- 5 Cho, Z.H., "General Views on 3-D Image Reconstruction and Computerized Transverse Axial Tomography," IEEE Transactions on Nuclear Science, Vol. NS-21, No. 3 (June 1974).
- 6 DeClemented, A., Mohan, R., Reddy, M.T., Holt, J.G., "The Memorial Hospital External Beam Treatment Planning Program." Memorial Hospital New York, NY (Nov. 1971).
- 7 Gordon, W.J., "Spline-Blended Surface Interpolation through Curve Networks," J. Math. Mech. Vol. 18, No. 10 (1969).
- 8 Gouraud, Henri, Computer Display of Curved Surfaces, Dept. of Comp. Sci., Univ. of Utah, UTEC-CSs-71-113, June 1971. Also IEEE Transactions on Computers, Vol. TC-20, June 1971.
- 9 Lane, K., Bloch, P., Davis, L.W., "Computer Generated Isodose Curves for High Energy X-Ray Machines," American Journal of Roentgenology, Radium Therapy and Nuclear Medicine, 121(4), pp. 865-872, Springfield, Ill. (Aug. 1974).
- 10 Liu, H.K., "Two- and Three-Dimensional Boundary Detection," Computer Graphics and Image Processing, 6:2, pp. 123 (1976).
- 11 Meredith, W.J. and Massey, J.B., "Fundamental Physics of Radiology," John Wright Sons Ltd., Bristol (1968).
- 12 Neilson, I.R., Slater, J.M., Crispens, J.W., Chu, T., and Carlsen, E.N., "Interactive Computer/Ultrasound System for Radiation Treatment Planning," in Medinfo 74, North-Holland Publishing Co. (1974).
- 13 Newton, C.M., Ryden, K., Nelson, R. and Johnson, J., "Remote Graphics Treatment Planning (RAD-GRAF)," in UCLA Health Sciences Computing Facility UCLA, Los Angeles, Calif.
- 14 <u>Richard Franklin Riesenfeld, Applications of b-spline approximation to geometric problems of computer-aided design., 1973</u>
- 15 Riseman, E.M. and Arbib, M.A., "Computational Techniques in the Visual Segmentation of Static Scenes," Computer Graphics and Image Processing 6:3, pp. 492-501, NY (1977).
- 16 Rosenfeld, A., "Iterative Methods in Image Analysis," Proceedings of 1977 IEEE Conference on Pattern Recognition and Image Processing 14-18, Troy, NY (1977).
- 17 Rosenfeld, A., "SURVEY, Picture Processing: 1976," Computer Graphics and Image Processing Vol. 6, No. 2, pp. 157-183 (April 1977).
- 18 Torrance, K.E. and Sparrow, E.M., Theory for Off-Specular Reflection from Roughened Surfaces, J. Opt. Soc. Am., Vol. 57, No. 9, Sept. 1967, pp. 1105-1114.
- 19 Tuong-Phong, Bui, Illumination of Computer-Generated Images, Dept. of Comp. Sci., Univ. of Utah, UTEC-CSs-73-129, July 1973.
- 20 Sheng-Chuan Wu, John F. Abel, Donald P. Greenberg, An interactive computer graphics

approach to surface representation, Communications of the ACM, v.20 n.10, p.703-712, Oct. 1977

#### ↑ CITINGS 4

D. Herbison-Evans, Rapid raster ellipsoid shading, ACM SIGGRAPH Computer Graphics, v.13 n.4, February 1980

Ehud Artzy, Gideon Frieder, Gabor T. Herman, The theory, design, implementation and evaluation of a three-dimensional surface detection algorithm, Proceedings of the 7th annual conference on Computer graphics and interactive techniques, p.2-9, July 14-18, 1980, Seattle, Washington, United States

R. S. Gallagher, J. C. Nagtegaal, An efficient 3-D visualization technique for finite element models and other coarse volumes, ACM SIGGRAPH Computer Graphics, v.23 n.3, p.185-194, July 1989

Robert A. Drebin, Loren Carpenter, Pat Hanrahan, Volume rendering, ACM SIGGRAPH Computer Graphics, v.22 n.4, p.65-74, Aug. 1988

#### **↑ INDEX TERMS**

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- J. Computer Applications
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<u>Computer graphics</u>, <u>Radiation treatment planning</u>, <u>Smooth-shaded color displays</u>, <u>Three-dimensional surface representation</u>

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